

BENCHMARKS USED FOR CONTROL

"TBM No. 1": Elevation: 7.80 ft. (NGVD 1929) per Ref. No. 1. Bases on measurements from Benchmark "RM-79" (see below). Top of concrete sewer structure located about 30' inside the Cargill Salt gate at the south end of Eden Landing Road and under the electric transmission wires. FB 164/61 and FB 148/75

"RM-79": Elevation: 6.95 ft. (NGVD 1929). Per Ref. No. 1B and 2. A standard National Geodetic Survey brass disk stamped "N.G.S.-BM L-1326, 1977" located on the west end of a concrete headwall, at the south side of Alameda Creek, approximately 50' east of the centerline of the Southern Pacific Company railroad tracks, approximately 2100 feet north along said tracks from the intersection of Hesperian Blvd. with said tracks. FB 148/2

"L175 1934 reset 1956"
 "HT0322": Elevation: 7.65 ft. (NGVD 1929) per Ref. No. 5. A benchmark disk stamped "L175 1934 reset 1956" set in a light structure, 1.2 miles northeast along the Dumbarton Road from the northeast end of the Dumbarton Bridge at the KGO radio transmission station, in the top of the west concrete piling cap for the west corner of the station building, 1.8 feet west of the west corner of the building, about 0.7 foot higher than the ground and about level with the road. FB 164/66

"X 877 1954"
 "HS3288": Elev. 5.65 ft. (NGVD 1929) per Ref. No. 5. A benchmark disk set in the top of a concrete post, stamped "X 877 1954", 4.4 miles southeast along the Southern Pacific Co. Railroad track from the station at Newark, 45.5 feet north of milepost 35, 45.1 feet northeast of the northeast rail, 2.3 feet southwest of a fence, 2.2 feet southeast of a witness post, about 3 feet lower than the track and 0.4 foot above the ground. FB 164/74

"TBM No. 3": Elev. 0.66 ft. (NGVD 1929) based on measurements from Benchmark "X 877154" - "HS 3288" (above). A brass plaque at Coyote Creek, about 2.3 miles north along the Southern Pacific Co. Railroad track at a wooden bridge, in the top of the west one of the first pair of stone piers north of the south end of the bridge near the south end of a plank walkway along the west side of the track, 4.5 feet west of the west rail, and 4.4 feet lower than the track. (might be "HS 3278" per Ref. No. 5, but the measured elevation doesn't fit the published elevation of 1.90 ft. and benchmark label not observed. FB 164/77

"X555"
 "HS3003": Elev. : -1.99 ft. (NGVD 1929) from Ray Thinggaard L.S. 3820 per S.C.V.W.D. A benchmark disk stamped "X 555 1956" 1.6 miles west from Alviso, 0.25 miles south along Gold Street from the junction of Taylor Street at Alviso, thence 1.2 miles west along the Cargill Salt levee road, thence 0.1 mile south across a slough from the road, 159 feet southeast of the southeast corner of a salt company pump house, in the top of the east side of the concrete foundation of the northeast leg of a steel electric transmission tower (tower now gone), 63 feet south of the center line of a levee road, and about 2 feet lower than the road. Published elev. per Ref. No. 5: 0.83 ft. FB 168/29

"K555"
 "HS3004": Elev.: 0.99 ft. (NGVD 1929) from Ray Thinggaard L.S. 3820 per S.C.V.W.D. A benchmark disk stamped "K 555 1956" 2.4 miles west from Alviso, 0.25 miles south along Gold Street from the junction of Taylor Street at Alviso, thence 1.2 miles west along a Cargill Salt levee road, thence 1.0 mile north along a levee road, at the crossing of a power line, 95 feet northeast of the center of the junction of a road leading northwest, 40 feet east of the center line of north-south levee road, 37.5 feet northeast of the northeast corner of a small wooden bridge, 2.3 feet north of a witness post, about level with the road, and set in the top of a concrete post projecting 0.3 foot above the ground. Published elevation per Ref. No. 5: 3.39 ft. FB 168/41

"354": Elev. 12.17 ft. (NGVD 1929) from Ray Thinggaard L.S. 3820 per S.C.V.W.D. A brass plaque at the west side of a foot bridge at Steven's Creek. FB 168/41

"V-150"
 "HT1407": Elev.: 17.36 ft. (NGVD 1929) from Ray Thinggaard L.S. 3820 per Ref. No. 5. A benchmark disk set in a light structure stamped "V 150 1933" at the Old Dumbarton Bridge at the southwest end of the bridge, 40.1 feet northeast of the south corner, in the top of the southeast concrete curb, 12.3 feet southeast of the center line of the bridge, 2.8 feet northwest of the power line pole 28, and about 1 foot higher than the bridge floor.

"6405": Elev.: 6.32 ft. (NGVD 1929) from Ray Thinggaard L.S. 3820 per Towell level circuit of 1970. A benchmark disk in the southwestern leg of an electric transmission tower foot on the east side of Seaport Blvd. about 300' north of the road entering the Cargill salt plant. Published elevation: 6.49 ft.

LEGEND:

- ⊕ = Pond Staff
- PS = Top of Pond Staff Elevation
- TBM = Temporary Benchmark
- BM = Benchmark
- TEMP POINT = A temporary point used as a substitute for a missing pond staff.
- FB = Fremont Engineers Inc. field book No. and page.
- GB = a grade break in the levee

REFERENCES:

- No. 1A: Fremont Engineers Inc. Grading Plan for Cargill Salt D-3989, dated April 1993.
- No. 1B: Fremont Engineers Inc. Topographic Survey for Cargill Salt E-3989, dated May 1992.
- No. 2: FEFA Flood Insurance Rate Map- City of Hayward, Panel 19 of 29 - 0650330019D, dated Feb. 19, 1986.
- No. 3: East Bay Dischargers Authority Force Main Between Hayward and Alvarado, EBDA Project 57401 Plan and Profile DWG. No. 15, dated Aug. 2, 1977.
- No. 4: East Bay Dischargers Authority Force Main Between Alvarado and Newark, EBDA Project 57403, Title Sheet Dwg. No. 1, dated Aug. 8, 1977.
- No. 5: National Geodetic Survey Digital Data Sheets - West, dated July 1997.
- No. 6: East Bay Dischargers Authority Force Main Between Newark and Irvington, EBDA Project 57408, various drawings, dated Aug. 8, 1977.
- No. 7: FEMA Flood Insurance Rate Map, City of Newark, Panel 5 of 10, 06009 0005 E dated Sept. 30, 1988.
- No. 8: Aerial Topographic Survey showing a portion of Pond A8 of the Alviso System, provided by Cargill Salt, no date.
- No. 9: Plan entitled "Mountain View" Prepared for the City of Mountain View dated 08/16/93 showing Ponds A1 and A2W of the Alviso System, provided by Cargill Salt.
- No. 10: Plan entitled "San Francisco Bay Shoreline Levees Alameda and Santa Clara Counties, Calif. Cross Section Location, Showing ponds A2E, B1, B2, A3N, A3W.

ENCOUNTERED BENCHMARK MONUMENTS

(with measured and published elevations shown)

"EBDA #34"
 "HT2354": Measured Elev. : 5.67 ft. (NGVD 1929) (from TBM No. 1)
 Published Elev. : 5.603ft. (per Ref. No. 3.)
 A brass plaque at the southeast leg of an electric transmission tower. FB 164/63

"EBDS #38"
 "HT2354": Measured Elev. : 10.36 ft. (NGVD 1929) (from TBM No. 1)
 Published Elev. : 10.356 ft. (per Ref. No. 4 & 5) A plaque in the depressed portion of a concrete headwall. FB 164/64

"RM1326 1977": Measured Elev. : 8.62 ft. (NGVD 1929) (from TBM No.1)
 Published Elev. : ? A brass disk in the northwest concrete support for the tower guy wire at the easterly corner of Pond 1A. FB 164/66

"4509H 1983": Measured Elev. : 7.03 ft. (NGVD 1929) (from "L175 1934 reset 1956")
 Published Elev. : ? A plaque with a witness post. FB 164/69

"EBDA #49"
 "RMS": Measured Elev. : 7.40 ft. (NGVD 1929) (from "L175 1934 reset 1956")
 Published Elev. : 7.387 ft. (per Ref. No. 6 & 7) A brass disk at the southwest corner of the electric transmission tower No. 4/28 west of the abandoned southern kennels and south of the U.S.D. pump station. FB 164/69

TBM No. 2: Measured Elev. : 7.64 ft. (NGVD 1929) (from "L175 1934 reset 1956")
 Published Elev. : none. Chiseled cross on top of the headwall near the northeast corner of Pond 6. FB 164/72

"A1371 1983"
 "HS4390": Measured Elev. : 8.12 ft. (NGVD 1929) (from "X877 1954" - "HS3288")
 Published Elev. : 8.14 ft (per Ref. No. 5)
 A plaque at the southern foot of an electric transmission tower at the angle point in the transmission line. FB 475

"EBDA #65": Measured Elev. : 6.33ft. (NGVD 1929) from "X877 1954" - "HS3288"
 Published Elev. : 6.322 ft (per Ref. No. 6)
 A benchmark monument at the northwest foot of the southerly of the two electric transmission towers. FB 164/75

SOURCES OF THE ELEVATION DATA SHOWN

1. For all of the ponds of the Baumber System, Plant 1 System, Plant 2 System and Ponds A9 through A23 of the Alviso System, the ponds staff elevations (or temp. point elevations) and levee elevations are from measurements by Fremont Engineers Inc.. Pond bottom elevations are from measurements by Hal Haugness.
2. For all of the ponds of the Alviso System west of the Alviso Slough, namely ponds A1, A2W, A2E, B1, B2, A3N, A3W, A4, A5, A7 & A8, the ponds staff elevations are from measurements by Fremont Engineers Inc.. Levee elevations for Ponds A1 & A2W are from Ref. No. 9 and from measurements by Ray Thinggaard L.S. 3820. Levee elevations for Ponds A2E, B1, B2, A3W are from Ref. No. 10 and measurements by Ray Thinggaard. Levee elevations for Pond A4 are from measurements by Ray Thinggaard. Pond bottom elevations for Ponds A1 & A2W are from measurements by Hal Haugness, Ray Thinggaard and from Ref. No. 9. Pond bottom elevations for Pond B1 are from measurements by Ray Thinggaard. Pond bottom elevations for Ponds A2E, B1, B2, A3N, A3W, A4, A5 & A7 are from measurements by Hal Haugness. Pond bottom elevations for Pond A8 are from Ref. No. 8 and measurements by Ray Thinggaard. Pond bottom elevations for Ponds A1 & A2W are from measurements by Hal Haugness, Ray Thinggaard and from Ref. No. 9. Pond bottom elevations for Pond B1 are from measurements by Ray Thinggaard. Pond bottom elevations for Ponds A2E, B1, B2, A3N, A3W, A4, A5 & A7 are from measurements by Hal Haugness. Pond bottom elevations for Pond A8 are from Ref. No. 8 and measurements by Ray Thinggaard.
3. For all of the ponds of the Redwood City System, the Pond Staff elevations, levee elevations, and pond bottom elevations are from Ray Thinggaard, LS 3820.

